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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional)	
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		10/784,838	02/23/2004
		First Named Inventor	
		Richard A. Johnson	
		Art Unit	Examiner
		2614	HAROON, Adeel
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <p><input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</p> <p><input checked="" type="checkbox"/> attorney or agent of record.      33,992 Registration number _____</p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____</p> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p> <p><input type="checkbox"/> *Total of _____ forms are submitted.</p>			



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Date

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s): Richard A. Johnson  
Title: Tuner for Radio Frequency Receivers and Associated Method  
App. No.: 10/784,838 Filed: 02/23/2004  
Examiner: HAROON, Adeel Group Art Unit: 2614  
Atty. Dkt No.: 1052-0199 Confirmation No.: 1480

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M/S AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REMARKS IN SUPPORT OF  
THE PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Dear Commissioner:

In reply to the Final Office Action mailed June 30, 2008 and the Advisory Action mailed October 10, 2008, and pursuant to the Notice of Appeal and Pre-Appeal Brief Request for Review submitted herewith, Applicant requests review of the following issues on appeal. In order to facilitate full consideration of the remarks filed herewith, the Applicant respectfully requests that the Art Unit Supervisor designate a panel composed of at least three examiners.

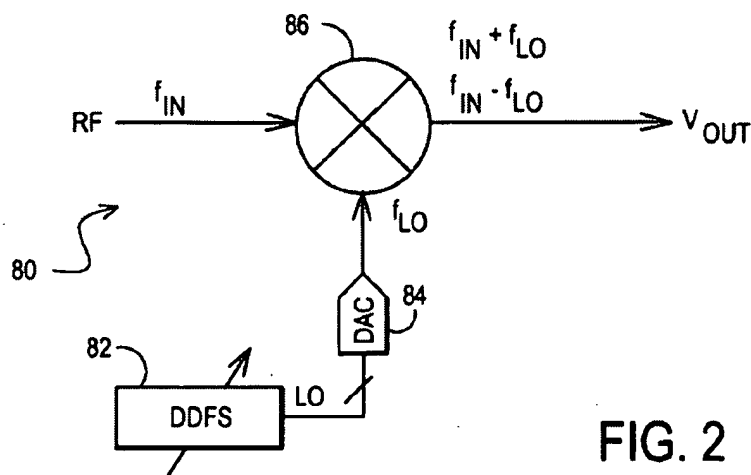
**1. Claims 1 and 5-6 are not anticipated by Applicant's admitted prior art.**

The Examiner improperly applied the principles of claim construction during examination with respect to the word "coupled" in the phrase "a second input terminal coupled to the output terminal of the direct digital frequency synthesizer" as recited in claim 1. The Examiner wanted Applicants to amend the claims to state "directly coupled." However Applicant contends that the word "coupled" as correctly interpreted under clear statutory and case law precedent adequately distinguishes the claims from the prior art of record.

In construing the claims, the Office applies the "broadest reasonable interpretation consistent with the Specification." See Phillips v. AWH Corp., 415 F.3d 1303, 1316-1317, 75

USPQ2d 1321, \_\_\_ (Fed. Cir. 2005); accord, M.P.E.P. §2111. In the Final Office Action, however, the Examiner applied an interpretation of “coupled” that is so broad that it is *inconsistent* with the Specification. Applicant submits the Office improperly applied this standard by overlooking the “consistent with the Specification” requirement.

First, Applicant described the technique used by the AAPA to *distinguish* the subject matter of the present claims. The AAPA shows a mixer 86 being driven by an analog local oscillator signal:



**FIG. 2**  
PRIOR ART

DAC 84 converts the output of DDFS 82 into an analog local oscillator signal and provides this analog signal to the second input of mixer 86. Thus, the mixing signal exists as an actual signal at frequency  $f_{LO}$  that can radiate around the chip and mix with other signals conducted on other signal lines, creating unwanted locking and spurs. Applicant recognized this problem and the advantage of using the digital output of a DDFS to drive a mixer. See, for example, paragraph [0051]: “This architecture of the present invention solves this problem because the LO mixing signal never exists as a physical signal on any circuit node, but rather exists as a collection of digital bits,” and later in paragraph [0074]: “Since there is no circuit node that contains an actual oscillator signal, as there would be with a conventional LC oscillator, there is no mechanism for the local oscillator signals to leak or radiate into other circuits, causing unwanted locking or spurs.”

In contrast, claim 1 recites “a mixer having . . . a second input terminal coupled to the output terminal of the direct digital frequency synthesizer.” Claim 1 is supported by, *inter alia*, FIG. 3:

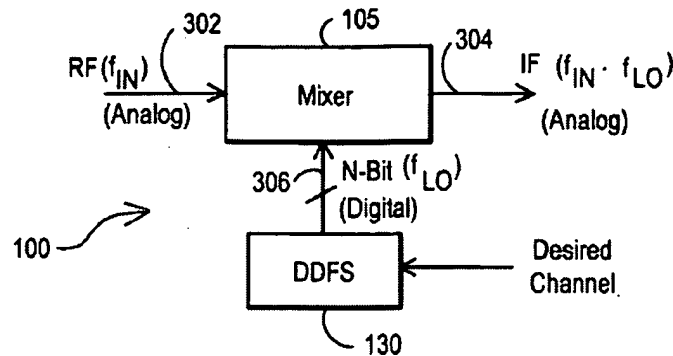


FIG. 3

Applicant could not have intended to claim as his invention subject matter he admitted he could not claim as his invention.

Second, the Specification states with respect to the AAPA in paragraph [0006]: “The output of DDFS 82 is *converted* into an analog signal using a digital-to-analog converter (DAC) 84 for input to a mixer 86 (emphasis added).” The conversion of the digital signal into the analog signal prevents the output of the DDFS from being “coupled to” the input of the mixer.

Thus it is clear that Applicant could not have intended to, nor did he, draft claims that would have covered his own admitted prior art. To say that the word “coupled” is broad enough to cover what Applicant points to as prior art and distinguishes, would be inconsistent with the Specification. While the Examiner’s interpretation is broad, it is not consistent with the specification and is not reasonable. Therefore it is contrary to law and Applicant submits that the rejection of claims 1 and 5-6 is improper.

## 2. Claim 29 is not anticipated by Kim.

Claim 29 recites a step of “mixing the analog radio frequency signal with the digital local oscillator signal.” The Examiner uses the Kim patent to reject claim 29, but Kim does not disclose this step. Kim discloses very clearly in col. 4, lines 2-6 and FIG. 2 that the mixers are

“driven by *local oscillator 205* controlled by a digital synthesizer 207 (emphasis added),” not by digital synthesizer 207:

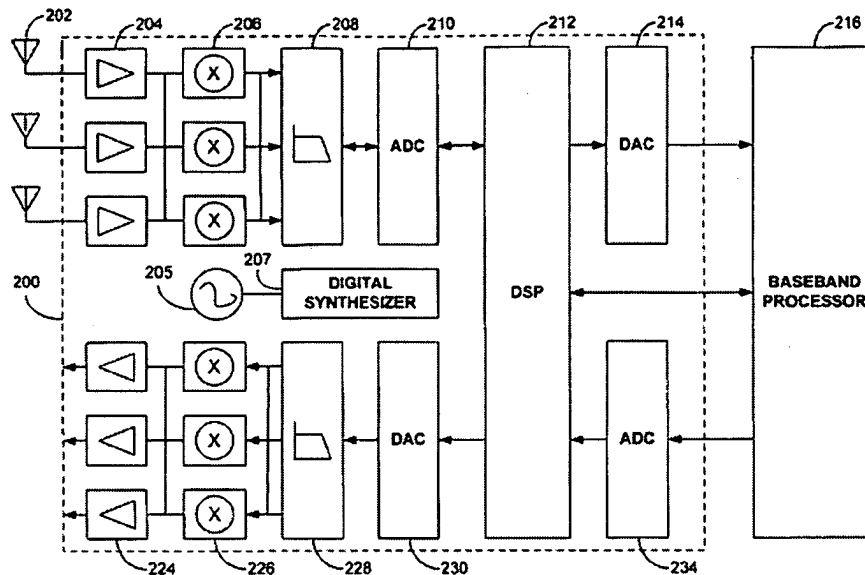


Figure 2A

Thus Kim simply cannot support a rejection under 35 U.S.C. 102(e).

Moreover in the face of Kim’s lack of explicit disclosure of the type of signal output by local oscillator 205, there are at least three good reasons to infer that the mixing is conventional mixing using an analog local oscillator signal. First, Applicant himself disclosed that the technique of using a DDFS and a DAC to generate an analog mixing signal was well known in the art. See the AAPA, FIG. 2 and the accompanying description. Second, if the output of local oscillator 205 were also digital, then local oscillator 205 would be redundant because digital synthesizer 207 already outputs a digital oscillator signal. Third, all the processing to the left of ADC 210 in the receive path is analog.

Yet in the face of a lack of explicit disclosure that local oscillator 205 outputs an analog signal, the Examiner concludes “Kim discloses a digital synthesizer which control [sic] the oscillator to generate a digital mixing signal.” The Examiner’s reasoning is known as an argument from silence, which is fallacious when used to make a logical conclusion. Moreover, to the extent that Kim’s silence supports *any* conclusion, it is that the output of local oscillator

205 is analog, as explained above.

**3. Claims 2-4, 7-28, and 30-46 are not obvious over the AAPA or Kim in combination with other references.**

With respect to the remaining rejections, note that they all depend on either the AAPA or Kim. The Examiner has not alleged that the features missing from the AAPA or Kim are present or would have been obvious in view of any of these references. In fact none of the additional references disclose the missing features, nor would they have been obvious in view of any of these references. Thus the remaining rejections are all improper.

**CONCLUSION**

In light of clear guidance in case law and the M.P.E.P, the rejections of claims 1-46 are improper and unsupportable. Applicant respectfully requests the reconsideration of the rejection of claims 1-46 and withdrawal thereof, thereby placing the application in condition for allowance.

The Commissioner is hereby authorized to charge any fees that may be required, or credit any overpayment, to Deposit Account Number 50-3797.

Respectfully submitted,

29 October 2008  
Date

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